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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/987,003

11/13/2001

Satoshi Seo

740756-2389

6380

31780

7590

08/31/2005

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EXAMINER

NEGRON, ISMAEL

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 08/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/987,003	Applicant(s) SEO, SATOSHI	
	Examiner Ismael Negron	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/28/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12, 15-25, 28-38, 41-49, 51-59, 61-68, 70-74, 76-83 and 85-92 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12, 15-25, 28-38, 41-49, 51-59, 61-68, 70-74, 76-83 and 85-92 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>Mar/31/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on June 28, 2005 has been entered. Claims 12, 23, 36, 49, 59 and 81 have been amended. Claims 1-11, 69 and 75 have been cancelled. No claim has been added. Claims 12, 15-25, 28-38, 41-49, 51-59, 61-68, 70-74, 76-83 and 85-92 are still pending in this application, with claims 12, 23, 36, 49, 59 and 81 being independent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12, 15-25, 28-38, 41-49, 51-59, 61-68, 70-74, 76-83 and 85-92 are rejected under 35 U.S.C. 103(a) as being unpatentable over KAWAMI et al. (U.S. Pat. 5,882,761).

3. KAWAMI et al. discloses an illumination device having:

- **a container (as recited in claims 12, 23, 23, 36, 49, 59 and 81),**
Figure 1, reference number 10;

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- **the container being sealed off from the atmosphere (as recited in claims 12, 23, 23, 36, 49, 59 and 81), column 4, line 30;**
- **an electro luminescent element (as recited in claims 12, 23, 23, 36, 49, 59 and 81), Figure 1, reference number 6;**
- **a drying agent (as recited in claims 12, 23, 23, 36, 49, 59 and 81), Figure 1, reference number 8;**
- **the drying agent chemically absorbing moisture and maintaining its solid state after the moisture absorption (as recited in claims 12 and 59), column 4, lines 35-37;**
- **the illumination device being incorporated into an OELE display device (as recited in claims 15, 28, 41, 51, 61, 70-74 and 85), column 1, lines 6-9;**
- **the drying agent including one of an alkaline metal oxide and an alkaline-earth metal oxide (as recited in claims 23, 36 and 81), column 4, lines 43-47;**
- **the drying compound including sodium oxide (Na_2O) (as recited in claims 24, 37 and 82), column 4, lines 48 and 49;**
- **the drying compound including calcium oxide (CaO) (as recited in claims 25, 38 and 83), column 4, line 51;**
- **a first substrate (as recited in claims 49, 59 and 81), Figure 1, reference number 2;**

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- **the electro luminescent element (OELE) being positioned over the first substrate (as recited in claims 49, 59 and 81), as seen in Figure 1;**
- **a second substrate (as recited in claims 49, 59 and 81), Figure 1, reference number 7;**
- **the second substrate being opposed to the first substrate (as recited in claims 49, 59 and 81), as seen in Figure 1;**
- the drying agent being interposed between the electroluminescent element and the second substrate (as recited in claims 49, 59 and 81), as seen in Figure 1;
- **a sealing member (as recited in Claim 49), Figure 1, reference number 9; and**
- **the sealing member being interposed between the first and second substrate (as recited in Claim 49), as seen in Figure 1.**

4. KAWAMI et al. discloses all the limitations of the claims, except:

- the drying agent having a porosity of 20% or more (as recited in claims 12, 23, 23, 36, 49, 59 and 81);
- the illumination device being used in a video camera (as recited in claims 16, 29, 42, 52, 62, 86);
- the illumination device being used in a digital camera (as recited in claims 17, 30, 43, 53, 63 and 87);

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- the illumination device being used in an image reproduction apparatus (as recited in claims 18, 31, 44, 54, 64 and 88);
- the illumination device being used in a portable computer (as recited in claims 19, 32, 45, 55, 65 and 89);
- the illumination device being used in a mobile telephone (as recited in claims 20, 33, 46, 56, 66 and 90);
- the illumination device being used in a personal computer (as recited in claims 21, 34, 47, 57, 67 and 91); and
- the illumination device being used in an acoustic equipment (as recited in claims 22, 35, 48, 58, 68 and 92);

5. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to form the drying agent having a porosity of 20% or more (as recited in claims 12, 23, 23, 36, 49, 59 and 81) since the Examiner takes Official Notice that high porosity drying agent bodies are old and well known in the art. One of ordinary skill in the art would have been motivated to form a drying agent into a body with a high porosity to enhance the effectiveness of the drying agent by increasing its surface area and allowing more of the agent to contact/react with moisture.

6. In addition, regarding the illumination device being incorporated in one of a video camera, a digital camera, an image reproduction apparatus, a portable computer, a mobile telephone, a personal computer and an acoustic equipment (as recited in claims 15-22, 28-35, 41-48, 51-58, 61-68 and 85-92), the examiner takes Official Notice that

the use of OELE devices is old and well known in the illumination art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the OELE of KAWAMI et al. in one of the cited apparatus. One would have been motivated since OELE are recognized in the illumination art to have many desirable advantages, including reduced size and thickness, high efficiency, low power consumption, long life, resistance to vibrations, and low heat production, over other light sources.

7. Applicant's failure to traverse the Examiner's assertion of official notice (presented in Section 3 of the previous Office Action) is noted. The applicant is advised that the incorporation of the illumination device of KAWAMI et al. to one of a video camera, a digital camera, an image reproduction apparatus, a portable computer, a mobile telephone, a personal computer and an acoustic equipment, has been considered as admitted Prior Art. See MPEP § 2144.03(C).

Relevant Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Adamson (Physical Chemistry of Surfaces, Chapter X, 1960, pages 425-430),
Dobson (Protection of Pharmaceutical and Diagnostic Products Through Desiccant Technology, 1987, Pages 10 and 13), **Rensselaer Polytechnic Institute** (Adsorption, 1995), **International Adsorption Society** (Adsorption Phenomena, 1998), **Hagan**

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(What is a Desiccant?, 1998, page 2), **Sorbent Systems** (Desiccants, 1999, page 2), **Alliance Desiccants** (Silica Gel, 2000, page 1), **International Union of Pure and Applied Chemistry** (Adsorption and Related Phenomena, 2001,) and **Myers and Monson** (Adsorption in Porous Material at High Pressure, 2002) evidenced the old and well known in the art status of increasing the absorption of water by a desiccant material by increasing porosity and surface area of such material.

Response to Arguments

9. Applicant's arguments filed June 28, 2005 have been fully considered but they are not persuasive.

10. Regarding the Examiner's rejection of claims 12, 23, 36, 49 and 81 under 35 U.S.C. 103(a) as being unpatentable over KAWAMI et al. (U.S. Pat. 5,882,761), the applicant argues that the cited reference fails to disclose all the features of the claimed invention, specifically the drying agent having a porosity of 20% or more. In addition, the applicant further argues that the Examiner's assertion of such porosity range being well known in the art is not capable of instant and unquestionable demonstration.

11. In response to applicant's surprising arguments that increasing the porosity of a drying agent to increase the boundary surface area is "esoteric technology or specific knowledge", the applicant is respectfully directed to previous Section 8, where a collection of documents is provided in support of the Examiner's position.

As evidenced by the cited documents, absorption capacity increases with the surface area of the boundary layer between the absorbent and the fluid, as more surface area means that more of the absorbent is in contact with the fluid. Increasing the surface area of the absorbent is not only old and well known in the art, but a standard practice. Providing a drying agent having the claimed 20% porosity, or more, would have flown naturally to one of ordinary skill in the art to achieve the highest adsorption possible for a specific drying agent.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

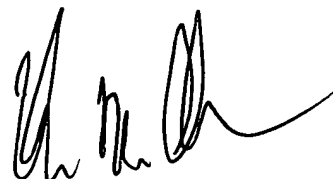
13. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negron whose telephone number is (571) 272-2376. The examiner can normally be reached on Monday-Friday from 9:00 A.M. to 6:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached at (571) 272-2378. The facsimile machine number for the Art Group is (703) 872-9306.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, go to <http://pair-direct.uspto.gov>. Should you have questions on access to Private PAIR system, contact the Electronic Business Center (EBC) toll-free at 866-217-9197.



THOMAS M. SEMBER
PRIMARY EXAMINER



August 24, 2005